

Computer Science

Introduction

In the new millennium and the global era, the role of information and automation in the various domains and activities of the business industry is becoming more important. The success of the activities is determined by how computer science can support managing the information. The information must be up-to-date, accurate and comprehensive to allow decision-makers to determine the enterprise's strategy. Furthermore, automation can facilitate human activity, accelerate the pace of work and make it more effective and efficient, while also increasing productivity in various activities. The development of communication and computer technology has made it possible to get information that is rapid, exact, and accurate. It also increases the application of automation in various fields such as industry, business, office affairs and the development of science and technology.

The Computer Science Program was founded in September 1987, under STMIK Bina Nusantara; it became one of the programs under the coordination of the Faculty of Computer Science, Bina Nusantara University in December 1998.

Computer Science Program at Bina Nusantara University emphasizes the processes, techniques, and tools that go into developing computer-based systems, with specialities in intelligent systems, software engineering, multimedia technology, database systems and network technology.

Vision

A world class study program by providing excellent educational experiences in Computer Science, which focuses on developing creative technology solutions, fostering and empowering the society in building and serving the nation.

Mission

The mission of Computer Science Department is to contribute to the global community through the provision of world-class education by:

1. Educating students to effectively apply their educational experiences in developing creative solutions in computer science, to solve real-world problems.
2. Preparing graduates to develop exemplary soft skills & technical skills required as computer science professionals, leaders, and entrepreneurs in global market.
3. Promoting high impact computer science research that contributes to the nation.
4. Fostering BINUSIAN as computer science lifelong learners through self-enrichment.
5. Empowering BINUSIAN to continuously improve society's quality of life through knowledge in computer science.

Program Objective

The objectives of the program are:

1. Graduates will become successful professionals in ICT fields;
2. Graduates will obtain employment in global companies or become entrepreneurs;
3. Graduates will obtain professional certification or continue their study to the postgraduate.

Student Outcomes

After completing the study, graduates are:

1. Able to analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions;
2. Able to design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of computer science;
3. Able to communicate effectively in a variety of professional contexts;
4. Able to recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles;
5. Able to function effectively as a member or leader of a team engaged in activities appropriate to computer science;
6. Able to apply computer science theory and software development fundamentals to produce computing-based solutions.

Prospective Career of the Graduates

After finishing the program, the graduate of the Computer Science Program could follow a career as:

1. Software Engineer/Developer
2. System Analyst/Developer
3. Web Engineer/Developer
4. Computer Network Specialist
5. Database Specialist
6. Artificial Intelligence Specialist
7. Data Scientist
8. IT Support/Consultant
9. Researcher
10. Multimedia Programmer
11. Lecturer/Trainer

Curriculum

The curriculum of the Computer Science Program has been developed in line with the National Curriculum. Also, the local content has been developed in line with the Computer Science Curriculum standard of ACM (Association for Computing Machinery), several local and foreign universities, and market trends, so that the graduates of the Computer Science Program are expected to be able to face competition at both a national and international level. Generally, the subjects of the curriculum 2020 are divided into the following groups of subjects:

Mathematics Group (Science)

The objective of this group is to provide an understanding of mathematics as one of the principal foundations of computer science. Another objective is to give an understanding of scientific methodology (data collection, hypothesis, research, analysis) in problem-solving.

Character Building Group (Professional Practices)

The objective of this group is to develop the personal strengths of the student and to provide him or her with a professional character, professionalism in their field, management skills, oral and written communication skills, understanding of business ethic, ability to work as a team, and to develop a “Binusian” Character.

Core Group

The objective of this group is to provide a grounding in Computer Science through practice as well as applied theory which is required by business both now and in the future. The subjects that are included in this group are programming, algorithm design and analysis, software engineering, database systems, computer graphics, multimedia technology, human and computer interaction, operation systems, computer architecture, and computer networks.

Concentration Subject (Stream)

The objective of this group is to allow students to obtain a deep understanding of a range of disciplines in computer science. The students are expected to develop their skills and master the techniques which will allow them to research both their thesis and/or to continue their studies.

The Concentration subjects (Stream) provide:

- **Software Engineering:** to explore the various methodologies and software engineering equipment.
- **Intelligent Systems:** to explore the various techniques of computer intelligence that can be applied to solving the problem.
- **Database Technology:** to explore the various technologies and database applications.
- **Network Technology:** to explore computer networking which consists of installation, administration, and computer networking management.
- **Interactive Multimedia:** to explore computer interactive multimedia applications, based on computer programming, design tools, and software engine.
- **Internet of Things:** to explore the various techniques and implementation of IoT.
- **Digital Creative Technology:** focuses on competencies development in the smart software application development field based on big data analytics to support business innovation through digital transformation in Industry 4.0 era (Digital Business Innovation and Transformation).

Entrepreneur and Employability Skill (Internship)

The objective of this group of subjects is to prepare students with professional experience, and work ethics and to experience the working environment. The students are expected to apply and practice their knowledge in the real working area such as industry, research lab, and also an entrepreneur startup. They are also expected to give reports on the result of the subjects.

Course Structure

Sem	Code	Course Name	SCU	Total	
1	CHAR6013001	Character Building: Pancasila	2	20	
	MATH6025001	Discrete Mathematics	4		
	MATH6030001	Linear Algebra	2		
	COMP6047001	Algorithm and Programming ² (<i>AOL</i>)	4/2		
	COMP6798001	Program Design Methods ¹ (<i>AOL</i>)	2		
	LANG6027001	Indonesian	2		
	STAT6171001	Basic Statistics	2		
	Foreign Language Courses				0
2	CHAR6014001	Character Building: Kewarganegaraan	2	20	
	COMP6048001	Data Structures ^{1&2} (<i>AOL</i>)	4/2		
	MATH6031001	Calculus (<i>AOL</i>)	4		
	ENPR6311001	Creativity and Innovation	2		
	COMP6800001	Human and Computer Interaction ² (<i>AOL</i>)	2/1		
	MATH6183001	Scientific Computing (<i>AOL</i>)	2/1		
	Foreign Language Courses				0
3	CHAR6015001	Character Building: Agama	2	21	
	COMP6049001	Algorithm Design and Analysis ¹ (<i>AOL</i>)	4		
	CPEN6247001	Computer Networks (<i>AOL</i>)	2/1		
	COMP6065001	Artificial Intelligence ² (<i>AOL</i>)	4		
	SCIE6063001	Computational Physics (<i>AOL</i>)	2/1		
	COMP6799001	Database Technology ² (<i>AOL</i>)	2/1		
	COMP6820001	Object Oriented Programming ^{1&2}	2		
Foreign Language Courses			0		
4	COMP6696001	Research Methodology in Computer Science ¹ (<i>AOL</i>)	2	Streaming: 19/ 21 Minor / FE/ MST: 17	
	COMP6100001	Software Engineering ² (<i>AOL</i>)	4		
	SCIE6062001	Computational Biology	2/1		
	Streaming : Software Engineering				
	COSC6092001	Code Reengineering	2/2		
	COSC6093001	Software Architecture	2/2		
	COSC6094001	Mobile Hybrid Solution ²	2/2		
	Streaming : Intelligent System				
	COMP6885001	Natural Language Processing ^{1&2}	2/2		
	COMP6577001	Machine Learning	4		
	COMP7116001	Computer Vision ¹	2/2		
	Streaming : Interactive Multimedia				
	COMP8129001	User Experience ^{1&2}	2/2		
COSC6095001	Multimedia System and Programming Foundation ^{1&2}	2/2			

Sem	Code	Course Name	SCU	Total
	COSC6096001	Extended Reality	2	
	COMP7128001	Game Design	2	
	Streaming : Database Technology			
	COSC6097001	Data Engineering	2/1	
	COMP6579001	Big Data Processing ^{1&2}	2/2	
	COSC6098001	Data Visualization	2	
	COSC6099001	Data Analytics	2/1	
	Streaming : Network Technology			
	COMP6824001	Computer Security ¹	2/2	
	COMP6584001	Network and System Programming ^{1&2}	2/2	
	COSC6100001	Cloud Infrastructure	2/2	
	Streaming : Internet of Things (IoT)⁴			
	COMP6849031	Embedded System	2/2	
	COMP6850031	Multimedia & Mixed Reality	2/1	
	MOBI6072031	Mobile Programming	2/1	
	COMP6655031	Cyber Security in IoT	2	
	Streaming : Cloud Technology⁴			
	COMP6988031	Introduction to Cloud Computing	2/2	
	COMP6989031	Web Based Programming	2/2	
	COMP6990031	Introduction to Cloud security	2	
	Streaming : Digital Creative Technology⁶			
	COMP6679004	Web Programming ²	4	
	COSC6109004	Popular Programming Technology ¹	4	
	COSC6001004	User Experience	2	
	Streaming : Immersive Technology⁶			
	COSC6002004	User Experience for Digital Immersive Technology	2	
	COSC6003004	Multimedia and 3D Modelling	2/2	
	COSC6004004	3D Web Programming	2/2	
	General Courses for Stream Digital Creative Technology & Immersive Technology⁷			
	COMP6955004	Database Design	2	
	Streaming : Mobile and Game Technology⁸			
	COSC6197051	Game Design & Programming	4	
	COMP6898051	User Experience	2	
	COMP6899051	Machine Learning	2	
	COMP6900051	Mobile Embedded Systems	4	
	Streaming : AI-Driven Development¹⁰			
	COSC6148060	Machine Learning & Data Mining for Business	4	

Sem	Code	Course Name	SCU	Total
	COSC6149060	Cloud Architecture	2	
	COSC6150060	DevOps Engineering	4	
	COSC6151060	Geographic Information System	2	
	Minor Program		8	
	Free Electives		8	
	Foreign Language Courses		0	
5	COMP6062001	Compilation Techniques	4	Streaming: 18/ 20 Minor / FE: 22
	COMP6697001	Operating System (<i>AOL</i>)	2	
	ENPR6312001	Venture Creation	2	
	Elective Courses³			
	COSC6108001	Mobile Programming	2	
	COMP6586001	Embedded Systems	2	
	COMP6226001	Competitive Programming ¹	2	
	COMP6821001	Web Programming	2	
	COSC6065001	Network Security Fundamental	2	
	COSC6101001	Mobile Professional Solution	2	
	Streaming : Software Engineering			
	COSC6102001	Software Metrics and Quality Assurance	2/2	
	COSC6103001	Mobile Technology Solution ²	2/2	
	Streaming : Intelligent System			
	COMP6822001	Speech Recognition	2/2	
	COMP6826001	Deep Learning	2/2	
	Streaming : Interactive Multimedia			
	COMP6583001	Computer Graphics	2/2	
	COMP7139001	Game Programming ¹	4	
	Streaming : Database Technology			
	COMP6590001	Geographical Information System ¹	2/2	
	COMP6140001	Data Mining	2/2	
	Streaming : Network Technology			
	COSC6104001	Cloud Interfacing with Virtualization	2/2	
	COSC6105001	Cloud Native Applications	2/2	
	Streaming : Internet of Things (IoT)⁴			
	COMP6757031	Computer Vision in Internet of Things	2/2	
	COMP6882031	IoT Development and Architecture	2/2	
	Streaming : Cloud Technology⁴			
	COMP6991031	Cloud Services	2/2	
	COMP6993031	Application Development in Cloud	2/2	
	COMP6992031	Software Development Operations in Cloud Environments	2	

Sem	Code	Course Name	SCU	Total
	Elective Courses for Stream Internet of Things (IoT) & Cloud Technology ⁵			
	COSC6161031	Introduction to Biomedical Science	2	
	COSC6162031	Introduction to Semiconductor Devices and Applications	2	
	COSC6163031	IT Project	2	
	Streaming : Digital Creative Technology ⁶			
	COMP6678004	Big Data Analytics for Business	4	
	MOBI6063004	Mobile Application Programming ²	4	
	COSC6005004	Agile Software Development	2	
	Streaming : Immersive Technology ⁶			
	COSC6006004	Augmented Reality Application Programming	2/2	
	COSC6007004	Virtual Reality Application Programming	2/2	
	COSC6008004	Immersive Technology AI Based Capstone Project	2	
	Streaming : Mobile and Game Technology ⁸			
	COMP6903051	Computer Vision	2/2	
	COMP6905051	Mobile and Game Development Capstone Project	4	
	General Courses for stream Mobile and Game Technology ⁹			
	COMP6923051	Hybrid Application Development	2	
	Streaming : AI-Driven Development ¹⁰			
	COSC6152060	Deep Learning & MLOps	4	
	COSC6153060	Capstone Project	4	
	General Course for Stream AI-Driven Development ¹¹			
	COSC6154060	Applied Artificial Intelligence for Enterprise	2	
	Minor Program			
Free Electives			12	
6	Enrichment Program I		20	20
7	Enrichment Program II		20	20
8	COMP6747001	Pre-Thesis	2	6
	COMP6748001	Thesis	4	
	COMP6861001	Thesis	6	
TOTAL CREDITS 146 Credits				

¹⁾ This course is delivered in English

²⁾ Global Learning System Course

³⁾ Students will choose 1 course (2 credits) from the list of elective courses. The elective courses are available for students who choose stream in Binus Greater Jakarta or Minor Program or Free Electives

⁴⁾ Conducted for student mobility program in BINUS @Bandung

⁵⁾ Students will choose 1 course (2 credits) from the list of elective courses. The elective courses are available for students who choose stream and minor program in BINUS @Bandung

⁶⁾ Conducted for student mobility program in BINUS @Malang

⁷⁾ This course must be taken by mobility students at BINUS@Malang, including those in stream and minor program

⁸⁾ Conducted for student mobility program in BINUS @Semarang

⁹⁾ This course must be taken by mobility students at BINUS@Semarang, including those in stream and minor program

¹⁰⁾ Conducted for student mobility program in BINUS @Medan

¹¹⁾ This course must be taken by mobility students at BINUS@Medan, including those in stream and minor program

The detail of mobility, including streaming name and course information, may be subject to change at any time depending on the curriculum requirements of each campus. Students will be informed about any updates to mobility streaming during the registration period.

Students are required to choose one of the Streams or Minor Program or Free Electives or Mobility.

For Free Electives, students are required to choose from the list of Free Electives in Appendix.

Students will take foreign language courses according to BINUS University English proficiency test results. See foreign language courses appendix for the detail.

-) (AOL) - Assurance of Learning Process System

Streaming/Minor/Free Electives:

-) For 4th Semester: Students are required to choose Streaming/ Minor/ Free Electives. For Free Electives, students are required to choose from the list of Free Electives in Appendix.

-) For 5th Semester: Students are required to choose Streaming/ Minor/ Free Electives same with previous semester. For Free Electives, students are required to choose from the list of Free Electives in Appendix.

Foreign Language Courses:

Students will take foreign language courses according to Beelingua Placement Test results. See foreign language courses appendix for the details. Students must pass with a minimum Grade of C.

Appendix Foreign Language Courses

Foreign Language Courses		SCU
ENGL6253001	English for Frontrunners	0
ENGL6254001	English for Independent Users	0
ENGL6255001	English for Professionals	0
JAPN6190001	Basic Japanese Language*	0
CHIN6163001	Basic Chinese Language*	0

*) This course is optional for students

1. Students with Beelingua Placement Test score less than 60 are required to take English for Frontrunners and English for Independent Users.
2. Students with Beelingua Placement Test score between 60 and 99 are required to take English for Independent Users and English for Professionals.
3. Students with Beelingua Placement Test score greater than 99 are required to take English for Professionals. Additionally, students may choose to take either Basic Japanese Language or Basic Chinese Language.
4. Students are required to pass the foreign language courses before they take enrichment.
5. Students can see the requirements to pass the foreign language courses at BINUSMAYA – Beelingua

Pre-thesis (2 SCU) & Thesis (4 SCU) can be taken in the 6th and/or 7th semester by the students who meet the requirements from the Study Program/Program

Minor Scheme

Minor Program	Semester 4	Semester 5
Minor @ Binus Kemanggisan		
Blockchain Technology and Business	V	V
Creative Digital Storytelling	V	V
Cross Cultural Communication	V	V
Digital Banking	V	V
Digital Ecosystem	V	V
English for Business Professionals	V	V
Event Business and Entertainment	V	V
Human Capital in Digital Workplace	V	V
Interactive & Users Experience Design	V	V
Robotic Process Automation	V	V
Sustainable Development	V	V
Minor @ Binus Alam Sutera		
Digital Transformation	V	V
Minor @ Binus Bekasi		
Culinary	V	V
Korean Culture and Creativity	V	V
Minor @ Binus Malang		
Chinese for Career Pathways	V	V
Digital Technopreneur	V	V
English for Business Professionals	V	V
Minor @ Binus Bandung		
DesignPreneur	V	V
Minor @ Binus Semarang		
Content Creation	V	V
Data Analytics	V	V
Immersive Journey to Japanese Language and Culture	V	V
Metaverse in Business	V	V
Minor @ Binus Medan		
Global Business	V	V

The minor programs can change anytime based on the trends of knowledge and industry each year. Students will receive information about the updated minor programs during the registration period.

1. Minor Program: Blockchain Technology and Business
Introduction

Blockchain is currently one of the fastest-growing industries in the technology sector. Also, based on Gemini's 2022 outlook, Indonesia is the most crypto-adopting country in Asia. The blockchain minor program initiative at BINUS could facilitate the students to learn and explore the technology. The Blockchain minor program explores the concept and development of blockchain from the technology and business perspectives. Beyond the blockchain concept, students will learn how to develop smart contracts and understand the architectural needs of a blockchain-based application. Finally, students will apply their knowledge in a project-oriented capstone course, during which they will design and develop a practical application of blockchain technology.

Career Options

Blockchain Consultant, Blockchain Architect, Blockchain Security Auditor, Token Economy Consultant, Smart Contract Developer, Web3 Entrepreneur.

Course Distribution

Fundamental Courses

Course	SCU
ISYS6826003 Introduction to Blockchain Technology	4
ISYS6827003 Blockchain Economy & Business	4
DTSC6016001 Basic Blockchain Programming	2
Total SCU	10

Supporting Courses

Course	SCU
ISYS6828003 Blockchain Architecture Design and Implementation	4
DTSC6017001 Advanced Blockchain Programming	2
DTSC6018001 Prototyping Blockchain Project	4
Total SCU	10

Additional Information

None

2. Minor Program: Chinese for Career Pathways

Introduction

This minor program offers a variety of courses customized to industry needs for Binus non-Chinese Literature students. With this minor program, students who do not major in Mandarin can still experience the benefits of mastering basic Mandarin, which is currently required by industries such as Hospitality, Chinese Companies, Management Banking, and Communication skills.

Career Options

Business Administration, Translation and Interpretation, International Relations and Diplomacy, Tourism and Hospitality, Marketing and Communications.

Course Distribution

Fundamental Courses

Course	SCU
CHIN6196026 Mandarin for Future Career	4
CHIN6197026 Easy Way to HSK 2 Preparation	4
CHIN6198026 Exploring Modern Chinese Culture	2
Total SCU	10

Supporting Courses

Course		SCU
CHIN6199026	Chinese Digital Technology	2
CHIN6200026	Traveling to China	2
CHIN6201026	Special Topics in Chinese Business	2
CHIN6202026	Global Strategic Marketing: Chinese Perspective	4
Total SCU		10

Additional Information

Open a maximum of 2 classes per batch per semester, with each class accommodating up to 30 students.

3. Minor Program: Creative Digital Storytelling
Introduction

Digital storytelling, by definition, is the process of telling a story using video, images, audio, music, geospatial applications, and any other digital media. Thus, this minor introduces the concept and skills in producing and communicating videos, images, and texts through English. It is interdisciplinary in its nature and relies heavily on critical and analytical thinking. It also aims to familiarize students with the technology/ tools needed to adapt a literary work to another form or vice versa. It is the minor that blend perspectives of arts with humanities to facilitate new interpretation of literary works.

Career Options

Social Media Content Creator; Digital Storyteller; Brand Designer; Digital Storytelling News Editor; Social Media Specialist; Digital Associate; Video Editor; Content Creator; Content Creator; Scriptwriter; Fiction writers; Non-Fiction Writers; Copywriter; Social Media Specialist.

Course Distribution
Fundamental Courses

Course		SCU
ENGL6274024	Approaches in Multimodal Storytelling	2
DSIN6033007	Visual Storytelling	2
ENGL6275024	Storytelling for Business	2
FILM6118009	Script Development & Pitching	4
Total SCU		10

Supporting Courses

Course		SCU
ENGL6276024	Cultures, Language, and Arts Production	4
JAPN6212025	Anime and Manga as Storytelling	2
ENGL6277024	Music as Medium for Storytelling	4
Total SCU		10

Additional Information

None

4. Minor Program: Content Creation

Introduction

You've probably heard it by now: Content is king. But why? Those days Consumers are going online, marketing has gone digital, and content creation is more important now than ever. Content creation encapsulates copywriting, design, production and other media that provide value and connect you to your target audience. Matching search intent and providing value (to the consumer and brand) is the foundation of successful content creation. Content creators produce work on a variety of platforms including social media, blogs, podcasts, video platforms, case studies, white papers, infographics and more.

Career Options

Content Creator, Influencer, Social media Specialist.

Course Distribution

Fundamental Courses

Course	SCU
FILM6105009 Filmmaking Fundamental	4
MKTG6336055 Content Marketing Analytics	4
DSIN6042053 Photography for Creators	2
Total SCU	10

Supporting Courses

Course	SCU
DSIN6094053 Content Storytelling	4
DSIN6043053 Strategic Influence	2
DSIN6041053 Introduction to Visual Communication Design	4
Total SCU	10

Additional Information

None

5. Minor Program: Cross Cultural Communication

Introduction

This minor program equips students with the ability to communicate using languages and understanding cultures of foreign parties. In addition, this minor program enables students to apply intercultural awareness through both Indonesian and foreign languages and cultures.

Career Options

Language specialist, language localization specialist, translator, interpreter, mobility consultant/staff.

Course Distribution

Fundamental Courses

Course	SCU
CHIN6132026 Chinese Conversation in Daily Activities	4

Course	SCU
COMM6502019 Communication in Diversity	2
BUSS6170025 Asian Business Ethics	4
Total SCU	10

Supporting Courses

Course	SCU
CHIN6134026 Chinese Conversation in Business Communication	4
LAWS6198028 Artificial Intelligence in Legal Discourse	2
INTR6135029 Comparative Politics	4
Total SCU	10

Additional Information

None

6. Minor Program: Culinary

Introduction

The Culinary Minor Program provides learning that focuses on Culinary, Pastry & Bakery field. The curriculum design is more of practicums, which aim to make students have the competencies required in the fields of Food Production, Pastry & Bakery and Authentic Indonesian Cuisine.

Career Options

Entrepreneur in the field of Culinary (Resto, Café, Catering Business), Chef, Restaurant Owner/Manager.

Course Distribution

Fundamental Courses

Course	SCU
HTMN6108021 Food and Beverage Management	2
HTMN6008021 Kitchen Operation	4
HTMN6128021 Pastry and Bakery Operation	4
Total SCU	10

SCU for HTMN6008021, HTMN6128021 are practical

Supporting Courses

Course	SCU
HTMN6155021 Indonesian Cuisine	4
HTMN6125021 Restaurant Operation	4
HTMN6154021 Culinary Tourism	2
Total SCU	10

SCU for HTMN6155021, HTMN6125021 are practical

Additional Information

None

7. Minor Program: Data Analytics

Introduction

The Data Analytics minor program provides insight into acquisitions and analysis of data in organizations by using critical thinking from multiple strategic perspectives, including consumer behavior communicated in the form of visualizations/models that can support retrieval decision.

Career Options

Data Analyst, Marketing Analyst.

Course Distribution

Fundamental Courses

Course	SCU
INFS6066052 Introduction to Data Analytics	2
INFS6067052 Data Management & Descriptive Analytics	4
ISYE6371054 Statistical for Decision Making	4
Total SCU	10

Supporting Courses

Course	SCU
COSC6183051 Application of Predictive Analytics to Business Data	4
ISYE6372054 Prescriptive Analytics and Optimization	4
BUSS6277055 Digitalization of Markets and Consumption	2
Total SCU	10

Additional Information

None

8. Minor Program: Designpreneur

Introduction

The Designpreneur Minor program give students the ability to be able to produce innovative work in the form of products or services based on creativity and design that can be utilized in running or developing a business.

Career Options

Design journalist, product designer, packaging designer, service system designer, service process analyst, creative director, sociopreneur.

Course Distribution

Fundamental Courses

Course	SCU
ENTR6525032 Fundamental of Designpreneur	4
COMP6688031 UI/UX Development	4
DSGN6797034 Surface Packaging Design	4
ENTR6526032 Hospitality and Service Design	4

Course	SCU
DSGN6843033 Project Design	4
Total SCU	20

Additional Information

None

9. Minor Program: Digital Banking

Introduction

A set of elective courses students can take from selected study programs at Binus University. This set aims to:

1. Comprehensive understanding of various concepts and practices in digital banking.
2. Critically Evaluate the implementation of digital banking for business optimization.
3. Apply relevant techniques of digital banking for business.
4. Develop solutions for various problems in digital banking.

Career Options

This minor would substantially contribute to the banking profession in Indonesia and its ecosystem (regulators, IT-Business Consultant, Financial Analysts, and other Finance Professions).

Course Distribution

Fundamental Courses

Course	SCU
ISYS6824003 Technology Innovation in Banking	2
FINC6217020 Bank Risk Management in the Digital Era	4
FINC6218020 Digital Finance and The Role of Central Bank	4
Total SCU	10

Supporting Courses

Course	SCU
MGMT6510005 Business Process Management in Banking and Finance	4
ISYS6825003 Data Analytics in Banking and Finance	4
MGMT6511005 Digital Leadership	2
Total SCU	10

Additional Information

None

10. Minor Program: Digital Ecosystems

Introduction

To face challenges in the era of technological disruption and the wave of the 4.0 industrial revolutions, this minor program offers foundational knowledge about the digital ecosystem in the 4.0 industrial revolutions. Through this minor program, students will be able to develop fundamental knowledge about main pillars of the digital ecosystem,

such as informatics, business, and creative design. Students will also be able to combine the knowledge they gain from their respective majors with information technology to develop real solutions for society.

Career Options

Chief technology officer, digital business strategy expert/consultant, digital solution architect, digital business strategy manager, digital operations manager.

Course Distribution

Fundamental Courses

Course	SCU
COSC6196001 Immersive Technology	2
GAME6002001 Game Design	2
ISYS6549003 Digital Innovation	4
COMP6937001 Current Trends in Technology	2
Total SCU	10

Supporting Courses

Course	SCU
COMM6501019 Narrative Development	4
DSGN6834007 Visual Identity	4
COMP6685001 Cyber Security for Business	2
Total SCU	10

Additional Information

None

11. Minor Program: Digital Technopreneur

Introduction

Digital Technopreneur is a minor program that facilitates students in exploring the potentials of developing digital technology venture that combines technical competence with entrepreneurial skills, creativity, and innovative ideas to produce digital technology business models & prototypes. The minor program embraces the human-centered approach in helping students to develop innovative value propositions.

Career Options

Entrepreneur, Digital-preneur, Techno-preneur, Creative-preneur, Design-preneur.

Course Distribution

Fundamental Courses

Course	SCU
ENTR6528002 The Entrepreneurial Innovator	4
ENPR6370002 Market Intelligence	4
COMP6687004 User Experience Design	4
COSC6164004 Web Programming for Business	4

Course	SCU
COSC6165004 Data Analytics for Business	4
Total SCU	20

Additional Information

None

12. Minor Program: Digital Transformation

Introduction

Digital Transformation provides knowledge on how information technology can be a competitive advantage in business processes. In this minor program, students will learn about innovation in business processes, data management, and strategies that can support companies to become leaders in the digital era.

Career Options

Business Analyst, System Analyst, Corporate Information Systems Designer, Database Administrator, Database Designer, Technopreneur, IS Project Manager, IT/IS Consultant and Auditor, Social Media professional, and Marketing Analyst.

Course Distribution

Fundamental Courses

Course	SCU
ISYS6559003 Business Models and Technology Innovation	4
ISYS6557003 Business Data Management	4
MGMT6484005 Digital Strategy	2
Total SCU	10

Supporting Courses

Course	SCU
ISYS6695003 Digital Marketing Analysis	4
STAT6200049 Practical Statistics for Digital Business	4
ISYS6560003 Success Factor for Leading Digital Transformation	2
Total SCU	10

Additional Information

None

13. Minor Program: English for Business Professionals

Introduction

This minor focuses on students who are interested in English in the business context. Students will learn about leadership and management, as well as language innovations in marketing and advertising. There will also be discussions on business communication issues.

Career Options

Manager, Business practitioner, Entrepreneur, Professional employee.

Course Distribution

Fundamental Courses

Course	SCU
ENGL6154024 English for Business Communications	4
MKTG6112024 Language Innovations in Marketing and Advertising	2
ENGL6244024 Social Media Broadcasting	4
Total SCU	10

Supporting Courses

Course	SCU
ENGL6258024 English for Global Leadership	2
ENGL6169024 English for Professionals	2
COMM6506024 Current Issues in Business Communications	2
ENGL6245024 Business Rhetoric	4
Total SCU	10

Additional Information

None

14. Minor Program: Event Business and Entertainment

Introduction

This minor program provides practical and managerial skills, as well as knowledge of business in MICE (Meeting, Incentive, Convention, Exhibition) event, sport event, and festival, enabling students to plan and conduct a successful event.

Career Options

Professional event organizer, Professional Conference Organizer, Even Coordinator, Convention Services Supervisor, Venue Supervisor, Entertainment Supervisor, Event Promotor, Events Planner, Sporting Event Organizer, Catering Coordinator.

Course Distribution

Fundamental Courses

Course	SCU
HTMN6151021 Event Marketing Management	2
HTMN6152021 Catering Management	4
TRSM6232022 MICE (Meeting, Incentive, Convention, Exhibition) Management	4
Total SCU	10

Supporting Courses

Course		SCU
TRSM6233022	Event Sponsorship and Funding	2
TRSM6234022	Sport and Entertainment Event Management	4
TRSM6235022	Festival & Cultural Event	4
Total SCU		10

Additional Information

None

15. Minor Program: Global Business
Introduction

The Global Business minor program is designed for students who aspire to integrate creativity, business acumen, and technological expertise in a global context. This program equips students with essential knowledge and skills in digital business innovation, creative industry management, and emerging technologies. Students will explore topics such as digital entrepreneurship, creative content monetization, business model innovation, and the application of advanced technologies like artificial intelligence, blockchain, and immersive media in creative industries. By combining business strategy with technological advancements, this minor prepares students to become agile professionals capable of navigating and leading in the evolving global marketplace. This program is ideal for students from various disciplines who wish to enhance their competencies in creative business and technology, fostering interdisciplinary innovation and international competitiveness.

Career Options

Digital Business Strategist, Creative Entrepreneur, Digital Marketing Specialist, UX/UI Designer, Tech-Driven Product Manager, Creative Industry Manager, E-commerce & Content Monetization Expert, Brand & Digital Experience Manager, Creative Technologist.

Course Distribution
Fundamental Courses

Course		SCU
DSIN6142066	Global Interactive Design	4
BUSS6275061	E-Commerce and Digital Entrepreneurship	4
COSC6159060	Emerging Technologies in Global Business	4
ISYS6997064	Data Analytics for Global Business	4
TRDE6001065	Global Regulatory Environment	4
Total SCU		20

Additional Information

Open a maximum of 2 classes per batch per semester, with each class accommodating up to 30 students

16. Minor Program: Human Capital in Digital Workplace

Introduction

HCDW focuses on the human aspect of improving performance and developing human resources in the Industrial 4.0 era, which utilizes a significant number of digital and mobile workspaces.

Career Options

Human resource consultant, human resource manager, HR application developer (HRIS developer), HR development consultant.

Course Distribution

Fundamental Courses

Course	SCU
PSYC6174027 Psychology in The Workplace	4
MGMT6349005 Digital Workplace Strategy	4
ISYS6551003 Digital Workplace and Technology	4
LAWS6157028 Legal Aspects in Digital Workplace	4
PSYC6175027 Human Resources Development	4
Total SCU	20

Additional Information

None

17. Minor Program: Immersive Journey to Japanese Language and Culture

Introduction

Immersive Journey to Japanese Language and Culture Minor program is focused on the basic learning of the Japanese language (equivalent to N5 or corresponding to CEFR levels A1 to A2). This includes an understanding of Japanese characters (Hiragana, Katakana, basic Kanji) and grammar. Additionally, it encompasses the comprehension of reading and listening skills in Japanese, covering vocabulary, phrases, and simple sentences. This program also includes the development of basic writing and speaking skills in Japanese.

Upon completion of this minor, students will be prepared to read Japanese written in Hiragana, Katakana, and basic Kanji, as well as understand everyday conversations in the Japanese language. Subsequently, students will be equipped to engage in basic-level Japanese speaking and writing.

The outcomes of this minor, built upon a foundation of basic Japanese language proficiency, will benefit students who plan to study abroad in Japan, travel to Japan, or pursue interests and hobbies related to Japan.

Career Options

Working in Japan, either in Indonesia or Japan, in the following fields as Consultant, Front Office, Tour Guide, Secretary, Finance, HR, Industry Creative (Content creator, dubber, cosplayer).

Course Distribution

Fundamental Courses

Course	SCU
JAPN6221025 Essential Japanese Grammar (<i>Yoku Tsukaeru Bunpou</i>)	4
JAPN6222025 Survival Japanese in Various Situations (<i>Nihon E Ikou, Yasashii Kaiwa De</i>)	4
JAPN6223025 Ideas and Images of Japan (<i>Nihon Jijou</i>)	2
Total SCU	10

Supporting Courses

Course	SCU
JAPN6224025 Japanese Reading Comprehension (<i>Tanoshiku Yomou</i>)	4
JAPN6225025 Understanding Native Japanese Speakers (<i>Tanoshiku Kikou</i>)	2
JAPN6226025 Japanese N5 Level Certification Preparation (<i>Nihongo Charenji N5</i>)	4
Total SCU	10

Additional Information

None

18. Minor Program: Interactive & Users Experience Design

Introduction

In today's digital era, people are competing to produce the best digital products that suit the users' needs. How can we make this happen? Minor Interactive & User Experience (UX) Design is the answer. In this Minor program, students will learn about the basics of UX starting from finding, designing, and building a digital product that is in accordance with a good UX concept to ensure that the digital products produced have adopted the UX theory. In this minor program, students will study UX from 3 (three) main pillars of UX, namely Information Systems, Psychology, and Design through 6 (six) subjects that can be selected.

Career Options

UX Researcher, UX Designer, Usability Analyst, Information Architect, Interaction Designer, Visual Designer, Content Strategies

Course Distribution

Fundamental Courses

Course	SCU
ISYS6553003 User-Centered Research and Evaluation	4
PSYC6176027 Psychology and User Experience	4
DSIN6003007 Fundamental of Interface Design	2
Total SCU	10

Supporting Courses

Course	SCU
ISYS6554003 Core Principles: Interactive Design	4

Course		SCU
DSGN6837007	Digital Design Production	4
ISYS6556003	Information Architecture	2
Total SCU		10

Additional Information

None

19. Minor Program: Korean Culture and Creativity

Introduction

This minor program provides knowledge and experience in Korean Performance and Culture. The courses will cover pop art, culture, cuisine, film, drama, music, and language. Students who have international experience, especially in Korea, will have a wide range of employment opportunities.

Career Options

Content Creator, Performer, Creative Marketer, Event Organizer, Foodpreneur, and Advertiser working in a Korean environment.

Course Distribution

Fundamental Courses

Course		SCU
HTMN6163021	Korean Cuisine and Culinary Arts	4
COMM6718019	Korean Language and Media	4
FILM6134009	Hallyu Creative Content	2
Total SCU		10

Supporting Courses

Course		SCU
FILM6135009	K-Drama and Beyond: Analysis and Appreciation	4
COMM6719019	K-Pop Culture and Performance	4
MKTG6339005	K-Pop and K-Drama Marketing and Promotion	2
Total SCU		10

Additional Information

None

20. Minor Program: Metaverse in Business

Introduction

The objective of the Metaverse in Business minor program in general is to offer a new learning experience in business innovation in the digital world. After completing the Metaverse in Business minor program, students will be able to design Virtual Reality applications so that they are able to present users in a virtual world, as if they are in another place, and develop Augmented Reality applications to present virtual effects in the real world.

Career Options

AR/VR Designer, AR/VR Developer, AR/VR Engineer, AR/VR Researcher.

Course Distribution

Fundamental Courses

Course	SCU
ISYS6777052 Business Model	2
COMP6889051 Virtual Reality	4
COMP6890051 Augmented reality	4
Total SCU	10

Supporting Courses

Course	SCU
ISYS6778052 Data Analytics	2
DSGN6981053 Design Thinking	4
DSGN6980053 Interface Design	4
Total SCU	10

Additional Information

None

21. Minor Program: Robotic Process Automation

Introduction

The Robotic Process Automation minor program provides an understanding of the concept of Robotic Process Automation (RPA) in automating repetitive processes, as well as providing an understanding of how the RPA development process involving the concept of Artificial Intelligence.

Career Options

RPA Developer, RPA Architect, RPA Business Analyst, System Analyst, Corporate Information Systems Designer, Technopreneur, IS Project Manager, IT/IS Consultant.

Course Distribution

Fundamental Courses

Course	SCU
COMP6857001 Basic Programming for Automation	2
COMP6858001 RPA Concept & Design	2
ISYS6684003 RPA Developer Fundamental	4
ISYS6687003 Business Process Improvement	2
Total SCU	10

Supporting Courses

Course		SCU
ISYS6685003	RPA Developer Advance	4
ISYS6686003	RPA Business Analytics Fundamental	4
COMP6859001	Intelligence Automation	2
Total SCU		10

Additional Information

None

22. Minor Program: Sustainable Development
Introduction

The minor program on the topic of Sustainable Development prepares students from other disciplines for careers in engineering-related fields. Students will receive enrichment in the fields of Architecture, Industrial Engineering, Civil Engineering, Computer Engineering, and Food Technology. Students also gain knowledge of the development and application of the latest technology in the engineering field, which supports sustainable development and the industrial revolution 4.0.

Career Options

Construction Manager; Property Manager; Building Manager; Civil Engineer; Project Manager; Pre Sales and Marketing Engineer, Product Specialist, Product Development, Business Development.

Course Distribution
Fundamental Courses

Course		SCU
ISYE6154011	Sustainable Design and Manufacture	4
CPEN6217010	Digital for Sustainable Development	4
ARCH6119014	Introduction to Sustainable Development	2
Total SCU		10

Supporting Courses

Course		SCU
ISYE6155011	Occupational, Health, Safety, and Administration in Engineering	2
DSGN6835008	Engineering Material	4
CIVL6118013	Engineering Economic	4
Total SCU		10

Additional Information

None

Appendix: Free Electives (4th Semester & 5th Semester)

Students will receive information about Free Electives during the registration period.

Enrichment Program I (6th Semester) & Enrichment Program II (7th Semester):

-) Student will take one of enrichment program tracks (off campus). See enrichment appendix for the tracks detail.

Enrichment Track Scheme

Track	Semester 6							Semester 7							
	IN	RS	EN	CD	SA	IS	etc	IN	RS	EN	CD	SA	IS	FS	etc
1	v							v							
2		v							v						
3			v							v					
4				v				v							
5				v							v				
6				v								v			
7				v									v		
8					v			v							
9					v						v				
10					v							v			
11					v								v		
12					v									v	
13							v	v							
14							v				v				
15							v					v			
16							v						v		
17	v													v	
18		v												v	
19						v		v							
20						v				v					
21						v					v		v		

Note:

IN	: Company Internship	SA	: Study Abroad
RS	: Research Fellowship	IS	: Specific Independent Study
EN	: Entrepreneurship	FS	: Fast Track
CD	: Community Impact Internship	etc	: Study Program Special Purposes

Description:

1. Students will take only one track in each Enrichment Program.
2. Students who failed in Enrichment Program I can retake according to the table above.
3. As for Enrichment Program II, students who failed should retake the same track, except Specific Independent Study.
4. For those who failed in the Study Abroad track will retake the courses from the home campus.

Company Internship Track

Code	Course Name	SCU	Total
Enrichment Program I			20
COMP6426001	Industrial Experience in Information Technology	8	
COMP6762001	Information Technology Practice in Industrial Experience	8	
COMP6514001	EES in Information Technology Industry	4	
Enrichment Program II			20
COMP6429001	Professional Experience in Information Technology	8	
COMP6763001	Information Technology Practice in Professional Experience	8	
COMP6430001	Professional Development in Information Technology Industry	4	

Entrepreneurship Track

Code	Course Name	SCU	Total
Enrichment Program I			20
ENTR6943001	New Venture Initiation in Computer Science	8	
ENTR6945001	Computer Science Product Development Process	8	
ENTR6947001	EES in New Computer Science Business I	4	
Enrichment Program II			20
ENTR6944001	Computer Science Product Launching	8	
ENTR6946001	Computer Science Business Development	8	
ENTR6948001	EES in New Computer Science Business II	4	

Research Fellowship Track

Code	Course Name	SCU	Total
Enrichment Program I			20
RSCH6565001	Research Experience I in Computer Science	8	
RSCH6567001	Scientific Writing I in Computer Science	8	
RSCH6569001	Global EES I (Team Work, Communication, Problem Solving & Decision Making) in Computer Science	4	
Enrichment Program II			20
RSCH6566001	Research Experience II in Computer Science	8	
RSCH6568001	Scientific Writing II in Computer Science	8	
RSCH6570001	Global EES II (Self-Management, Planning & Organizing, Initiative & Enterprise)	4	

Community Impact Internship Track

Code	Course Name	SCU	Total
Enrichment Program I			20
CMDV6159001	Community Outreach Project Implementation	8	
CMDV6343001	Community Outreach IT Project Design	8	
CMDV6208001	Employability and Entrepreneurial Skills in Computer Science Community	4	
Enrichment Program II			20

Code	Course Name	SCU	Total
CMDV6184001	Community Development Project Implementation	8	
CMDV6344001	Community Development IT Project Design	8	
CMDV6193001	Employability and Entrepreneurial Skills in Computer Science Community Development	4	

Study Abroad Track

Code	Course Name	SCU	Total
Elective courses list for study abroad*			
Enrichment Program I			
GLOB6005001	Elective Course for Study Abroad 1	4	20
GLOB6006001	Elective Course for Study Abroad 2	4	
GLOB6007001	Elective Course for Study Abroad 3	4	
GLOB6008001	Elective Course for Study Abroad 4	4	
GLOB6009001	Elective Course for Study Abroad 5	2	
GLOB6010001	Elective Course for Study Abroad 6	2	
GLOB6011001	Elective Course for Study Abroad 7	2	
GLOB6012001	Elective Course for Study Abroad 8	2	
GLOB6013001	Elective Course for Study Abroad 9	2	
GLOB6014001	Elective Course for Study Abroad 10	2	
GLOB6015001	Elective Course for Study Abroad 11	2	
GLOB6016001	Elective Course for Study Abroad 12	2	
GLOB6251001	Elective Course for Study Abroad 29	4	
Enrichment Program II			
GLOB6017001	Elective Course for Study Abroad 13	4	20
GLOB6018001	Elective Course for Study Abroad 14	4	
GLOB6019001	Elective Course for Study Abroad 15	4	
GLOB6020001	Elective Course for Study Abroad 16	4	
GLOB6021001	Elective Course for Study Abroad 17	2	
GLOB6022001	Elective Course for Study Abroad 18	2	
GLOB6023001	Elective Course for Study Abroad 19	2	
GLOB6024001	Elective Course for Study Abroad 20	2	
GLOB6025001	Elective Course for Study Abroad 21	2	
GLOB6026001	Elective Course for Study Abroad 22	2	
GLOB6027001	Elective Course for Study Abroad 23	2	
GLOB6028001	Elective Course for Study Abroad 24	2	
GLOB6253001	Elective Course for Study Abroad 31	4	

*) Transferred courses will be transferred based on credit transfer policies on study program with total of 20 credits.

Specific Independent Study

Code	Course Name	SCU	Total
Elective courses list for certified specific independent study*			20
CSIS6001001	Course Certification	3	

Code	Course Name	SCU	Total
CSIS6002001	Technical Skill Enrichment	4	
CSIS6003001	Industrial Project	9	
CSIS6004001	Soft Skill Enrichment	4	
CSIS6005001	Elective Course for Specific Independent Study 1	8	
CSIS6006001	Elective Course for Specific Independent Study 2	8	
CSIS6007001	Elective Course for Specific Independent Study 3	6	
CSIS6008001	Elective Course for Specific Independent Study 4	6	
CSIS6009001	Elective Course for Specific Independent Study 5	6	
CSIS6010001	Elective Course for Specific Independent Study 6	5	
CSIS6011001	Elective Course for Specific Independent Study 7	5	
CSIS6012001	Elective Course for Specific Independent Study 8	5	
CSIS6013001	Elective Course for Specific Independent Study 9	5	
CSIS6014001	Elective Course for Specific Independent Study 10	4	
CSIS6015001	Elective Course for Specific Independent Study 11	4	
CSIS6016001	Elective Course for Specific Independent Study 12	4	
CSIS6017001	Elective Course for Specific Independent Study 13	4	
CSIS6018001	Elective Course for Specific Independent Study 14	4	
CSIS6019001	Elective Course for Specific Independent Study 15	3	
CSIS6020001	Elective Course for Specific Independent Study 16	3	
CSIS6021001	Elective Course for Specific Independent Study 17	3	
CSIS6022001	Elective Course for Specific Independent Study 18	3	
CSIS6023001	Elective Course for Specific Independent Study 19	3	
CSIS6024001	Elective Course for Specific Independent Study 20	3	
CSIS6025001	Elective Course for Specific Independent Study 21	2	
CSIS6026001	Elective Course for Specific Independent Study 22	2	
CSIS6027001	Elective Course for Specific Independent Study 23	2	
CSIS6028001	Elective Course for Specific Independent Study 24	2	
CSIS6029001	Elective Course for Specific Independent Study 25	2	
CSIS6030001	Elective Course for Specific Independent Study 26	2	
CSIS6031001	Elective Course for Specific Independent Study 27	2	
CSIS6032001	Elective Course for Specific Independent Study 28	2	
CSIS6033001	Elective Course for Specific Independent Study 29	1	
CSIS6034001	Elective Course for Specific Independent Study 30	1	
CSIS6035001	Elective Course for Specific Independent Study 31	1	
CSIS6036001	Elective Course for Specific Independent Study 32	1	

**) For students who take BINUS certified specific independent study courses, they should take the first 4 courses on the list above (20 credits). Meanwhile, electives courses 1 to 32 are transferred courses for students who take certified specific independent study outside BINUS University. Transferred courses will be transferred based on credit transfer policies on study program with total of 20 credits.*

Fast Track

Code	Course Name	SCU	Total
Enrichment Program II			20
COMP6981001	Applied Technology in Computer Science	4	
COMP6816001	Wireless and Cloud Computing Technologies	4	
COMP6997001	IT Disaster Recovery	6	
Streaming : Data Science			
COMP6998001	Knowledge Engineering	6	
Streaming : Information Security Management			
COMP6980001	Networking and Security Concepts	6	

Student should pass all of these quality controlled courses as listed below:

No.	Course Code	Course Name	Minimal Grade
1.	CHAR6013001	Character Building: Pancasila	B
2.	COMP6047001	Algorithm and Programming*	C
3.	COMP6798001	Program Design Methods*	C
4.	COMP6048001	Data Structures*	C
5.	COMP6799001	Database Technology	C
6.	COMP6100001	Software Engineering*	C
7.	COMP6697001	Operating System	C
8.	ENPR6312001	Venture Creation	C

*) Tutorial